

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-65. (Cancelled)

66. (Currently Amended) A synthetic genetic construct, ~~which is capable of delaying, repressing or otherwise reducing the expression of a target gene in an animal cell which is transfected with said genetic construct,~~  
~~wherein said genetic construct comprises~~ comprising two copies of a structural gene sequence identical nucleotide sequences each of which is substantially identical to a target gene in an animal cell,  
wherein the two identical nucleotide sequences are ~~connected~~ oriented in a head-to-head, head-to-tail or tail-to-tail ~~orientation-configuration~~ relative to each other and are spatially separated and linked by a stuffer fragment which comprises nucleotides, operably linked to a terminator sequence which contains a polyadenylation signal and is active in the cell,  
~~wherein said structural gene sequence comprises a nucleotide sequence which is substantially identical to a region of said target gene,~~  
~~wherein said the two copies~~ identical nucleotide sequences and stuffer fragment of said structural gene sequence are placed operably under the control of a single promoter sequence which is operable in ~~said the cell~~ and a transcription termination sequence which is active in the cell,  
~~wherein at least one copy of said structural gene sequence~~ the two identical nucleotide sequences is placed operably in the sense orientation under the control of ~~said the~~ promoter

~~sequence, wherein said two copies of said structural gene sequence are separated by a stuffer fragment which comprises a sequence of nucleotides;~~  
~~and wherein said terminator sequence is operably linked to said two copies of said structural gene sequence~~

67. (Currently Amended) A synthetic genetic construct, ~~which is capable of delaying, repressing or otherwise reducing the expression of a target gene in an animal cell which is transfected with said genetic construct,~~  
~~wherein said genetic construct comprises comprising two copies of a structural gene sequence connected identical nucleotide sequences each of which is substantially identical to a target gene in an animal cell,~~  
~~wherein the two identical nucleotide sequences are oriented in a head-to-head, head-to-tail or tail-to-tail orientation configuration relative to each other and are spatially separated and linked by a stuffer fragment which comprises nucleotides, and two terminator sequences each of which contains a polyadenylation signal and is active in the cell,~~  
~~wherein each copy of said structural gene sequence the two identical nucleotide sequences is separately placed under the control of a promoter sequence which is operable in said the cell and one of said a transcription termination sequence which is active in the cell terminator sequences, and~~  
~~wherein said structural gene sequence comprises a nucleotide sequence which is substantially identical to a region of said target gene, and~~  
~~wherein at least one copy of said structural gene sequence the two identical nucleotide sequences is placed operably in the sense orientation under the control of a an individual promoter sequence;~~

~~and wherein said two copies of said structural gene sequence are separated by a stuffer fragment which comprises a sequence of nucleotides.~~

68. (Currently Amended) The synthetic genetic construct of claim 66, wherein ~~at least one other copy of said structural gene sequence~~of the two identical nucleotide sequences is placed operably in the antisense orientation under the control of ~~said the~~ promoter sequence.

69. (Currently Amended) The synthetic genetic construct of claim 67, wherein ~~at least one other copy of said structural gene sequence~~of the two identical nucleotide sequences is placed operably in the antisense orientation under the control of ~~another individual a~~ promoter sequence.

70. — 71. (Cancelled)

72. (Currently Amended) The synthetic genetic construct according to claim 66, ~~having only two~~wherein the number copies of said structural gene sequence of the identical nucleotide sequences in the synthetic genetic construct is two.

73. (Currently Amended) The synthetic genetic construct according to claim 68, wherein ~~said the identical nucleotide sequences region of the target gene is~~are 30 nucleotides long.

74. (Currently Amended) The synthetic genetic construct according to claim 68, wherein ~~the identical nucleotide sequences are~~said structural gene sequence comprises a nucleotide sequence that is identical to said a region of said 30 nucleotides of the target gene.

75.-81. (Cancelled)

82. (Currently Amended) An animal cell comprising the genetic construct ~~according to~~of claim 66.

83.-114. (Cancelled)

115. (Previously Presented) The genetic construct of claim 68, wherein the target gene is a viral gene.

116. (Currently Amended) The genetic construct of claim ~~[[115]]~~68, wherein the ~~viral~~ target gene encodes a viral DNA polymerase, viral RNA polymerase or viral coat protein.

117. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from a lentivirus.

118. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from an immuno deficiency virus.

119. (Previously Presented) The genetic construct of claim 68, wherein the target gene is from a single-stranded (+) RNA virus.

120. (Withdrawn) The genetic construct of claim 68, wherein the target gene is from a double-stranded DNA virus.

121. (Previously Presented) The genetic construct of claim 68, wherein the target gene is a transgene in the animal cell.

122. (Withdrawn) The genetic construct of claim 68, wherein the target gene is an endogenous gene of the animal cell.

123. (Currently Amended) The genetic construct of claim 68, wherein the ~~region of the target gene corresponds~~ two identical nucleotide sequences are substantially identical to a coding region of the target gene.

124. (Currently Amended) The genetic construct of claim 68, wherein the ~~region of the target gene corresponds~~ two identical nucleotide sequences are substantially identical to a 5'- or 3'- untranslated sequence of the target gene.

125. (Currently Amended) The genetic construct of claim 68, wherein ~~the transcribed region of the~~ genetic construct comprises an intron in a transcribed region which is operably under the control of the promoter sequence.

126. (Previously Presented) The genetic construct of claim 68, wherein the stuffer fragment is a sequence of nucleotides 10-50 nucleotides in length, 50-100 nucleotides in length, or 100-500 nucleotides in length.

127. (Currently Amended) The genetic construct of claim 68, wherein the stuffer fragment ~~comprises~~ is an intron sequence.

128. (Currently Amended) The genetic construct of claim 68, wherein the total length of the identical nucleotide sequences~~said structural gene sequences~~ is no more than 0.5-2.0 kilobases.

129. (Cancelled)

130. (Currently Amended) The genetic construct of claim 68, wherein the two ~~copies~~ identical nucleotide sequences are oriented in a head-to-head ~~orientation configuration~~ relative to each other.

131. (Currently Amended) The genetic construct of claim 68, wherein the two identical nucleotide sequences ~~copies~~ are oriented in a tail-to-tail ~~orientation configuration~~ relative to each other.

132. and 133. (Cancelled)

134. (Previously Presented) The genetic construct of claim 68, which is in a cell.

135. (Previously Presented) The genetic construct of claim 68, which is in a virus particle.

136. (Previously Presented) The genetic construct of claim 68, which is in a liposome.

137. (Currently Amended) The genetic construct of claim ~~[[134]]~~68, which is integrated into the genome of the cell.

138. (Previously Presented) An animal cell, comprising the genetic construct of claim 68.

139. (Previously Presented) The animal cell of claim 138, wherein the target gene is a viral gene.

140. (Currently Amended) The animal cell of claim ~~[[139]]~~138, wherein the ~~viral-target~~ gene encodes a viral DNA polymerase, viral RNA polymerase or viral coat protein.

141. (Previously Presented) The animal cell of claim 138, wherein the target gene is from a lentivirus.

142. (Previously Presented) The animal cell of claim 138, wherein the target gene is from an immuno deficiency virus.

143. (Previously Presented) The animal cell of claim 138, wherein the target gene is from a single-stranded (+) RNA virus.

144. (Withdrawn) The animal cell of claim 138, wherein the target gene is from a double-stranded DNA virus.

145. (Previously Presented) The animal cell of claim 138, wherein the target gene is a transgene in the animal cell.

146. (Withdrawn) The animal cell of claim 138, wherein the target gene is an endogenous gene of the animal cell.

147. (Currently Amended) The animal cell of claim 138, wherein the ~~region of the target gene corresponds~~ two identical nucleotide sequences are substantially identical to a coding region of the target gene.

148. (Currently Amended) The animal cell of claim 138, wherein the ~~region of the target gene corresponds~~ two identical nucleotide sequences are substantially identical to a 5'- or 3'- untranslated sequence of the target gene.

149. (Currently Amended) The animal cell of claim 138, wherein the ~~transcribed region of the genetic construct~~ comprises an intron in a transcribed region which is operably under the control of the promoter sequence.

150. (Previously Presented) The animal cell of claim 138, wherein the stuffer fragment is a sequence of nucleotides 10-50 nucleotides in length, 50-100 nucleotides in length, or 100-500 nucleotides in length.

151. (Currently Amended) The animal cell of claim 138, wherein the stuffer fragment ~~comprises~~ is an intron sequence.



152. (Currently Amended) The animal cell of claim 138, wherein the total length of the identical nucleotide sequences ~~said structural gene sequences~~ is no more than 0.5-2.0 kilobases.

153. Cancelled

154. (Currently Amended) The animal cell of claim 138, wherein the two identical nucleotide sequences ~~copies~~ are oriented in a head-to-head ~~orientation configuration~~ relative to each other.

155. (Currently Amended) The animal cell of claim 138, wherein the two identical nucleotide sequences ~~copies~~ are oriented in a tail-to-tail ~~orientation configuration~~ relative to each other.

156. – 157. (Cancelled)

158. (Currently Amended) The animal cell of claim 138, ~~which~~ wherein the genetic construct is integrated into the genome of the cell.

159. (Currently Amended) The animal cell of claim 138, wherein the promoter sequence is heterologous with respect to the identical nucleotide sequences ~~structural gene sequence~~.

160. (Currently Amended) The animal cell of claim 138, wherein the promoter sequence is expressed before the commencement of detectable expression of the target gene in the cell.

161. (Currently Amended) The animal cell of claim 138, wherein the gene construct is expressed to produce a primary transcript which has a 3' polyadenylate sequence ~~added to the~~ 3' end.

162. (Previously Presented) An isolated animal cell, tissue or organ, comprising the genetic construct of claim 68.

163. (New) A synthetic genetic construct, comprising two identical nucleotide sequences each of which is identical to 20-30 consecutive nucleotides of a target gene encoding a viral DNA polymerase, viral RNA polymerase, viral coat protein or a visually-detectable gene in an animal cell,

wherein the two identical nucleotide sequences are oriented in a head-to-head, head-to-tail or tail-to-tail configuration relative to each other and are spatially separated and linked by a stuffer fragment which comprises nucleotides,

wherein the two identical nucleotide sequences and stuffer fragment are placed operably under the control of a single promoter sequence which is operable in the cell and a transcription termination sequence which is active in the cell,  
wherein at least one of the two identical nucleotide sequences is placed operably in the sense orientation under the control of the promoter sequence.

164. (New ) The synthetic genetic construct of claim 163, wherein one of the two identical nucleotide sequences is placed operably in the antisense orientation under the control of the promoter sequence.
165. (New) An animal cell comprising the synthetic genetic construct of claim 164.
166. (New) A method of expressing an RNA in a cell, comprising the step of introducing the genetic construct of claim 66 into a eukaryotic cell.
167. (New) A method of modifying a cell, comprising the step of introducing the genetic construct of claim 66 into a eukaryotic cell.
168. (New) A method of determining whether the synthetic genetic construct of claim 66 is capable of modifying expression of a target gene in a cell, comprising the steps of introducing the genetic construct into a eukaryotic cell, and determining whether the synthetic genetic construct delays, represses or otherwise reduces the expression of the target gene in the cell.
169. (New) A method of expressing an RNA in a cell, comprising the step of introducing the genetic construct of claim 163 into a eukaryotic cell.
170. (New) A method of modifying a cell, comprising the step of introducing the genetic construct of claim 163 into a eukaryotic cell.

171. (New) A method of determining whether the synthetic genetic construct of claim 163 is capable of modifying expression of a target gene in a cell, comprising the steps of introducing the genetic construct into a eukaryotic cell and determining whether the synthetic genetic construct delays, represses or otherwise reduces the expression of the target gene in the cell.